

City of Clarksville MS4 Program Audit
NPDES Permit Number TNS075809
August 13, 2012

The City of Clarksville's stormwater management program was evaluated for compliance with the minimum control measures and other components required by the NPDES permit. Included in this report are relevant sections of the NPDES permit, which are summarized in italics and followed by the status of compliance with the permit requirement. Recommendations are given on how to begin to correct violations discovered during the audit.

Minimum Control Measure 1 - Public Education and Outreach

NPDES Permit Section 4.2.1. - Paragraph one in part requires the following:

MS4s should implement a public education and outreach program. The focus should be on impacts of stormwater discharges to water bodies and steps that the public can take to reduce pollutants in stormwater runoff. The City of Clarksville shall develop a Public Information and Education Plan (PIE) that details specific goals and specific public information events/activities that will occur over the remainder of the permit cycle. The PIE shall incorporate components from outreach campaigns and one on one communications and shall incorporate a mode to evaluate the plan's effectiveness so adjustments can be made.

In the division's 2006 audit letter and report to the City of Clarksville it was noted that the City had not implemented a public education and outreach program. During my August 13, 2013, audit I documented that the City of Clarksville has yet to develop and implement this plan.

This permit requirement has not been met.

Required action: The City of Clarksville must develop a Public Information and Education Plan (PIE) which identifies specific goals and specific public information events/activities. It must include all the required targeted educational campaigns as stated in Section 4.2.1 a-h in the current MS4 Permit. This information shall be tracked and the records maintained. A summary shall be included in the annual report.

Minimum Control Measure 2 - Public Involvement/Participation

NPDES Permit Section 4.2.2. - In part requires the following:

MS4s shall implement a public involvement/participation program. Such program shall comply with all applicable state and local public notice requirements. Elements of the program may include participation in local stormwater management work groups, public notices of MS4 meetings and public hearings, recruiting education volunteers, and involving the public with program coordination, detection of illicit discharges and monitoring efforts. The program shall encourage and promote citizen reporting of illegal spillage, dumping, or otherwise illicit disposal of materials into the MS4 system.

MS4s shall publicize program participation opportunities by methods designed to reach the intended audience.

MS4s shall facilitate opportunities for citizen involvement through activities such as creating a citizens' stormwater advisory council, volunteer stream monitoring programs, storm drain

marking, riparian plantings or stream clean-up events.

In the division's 2006 audit letter and report to the City of Clarksville it was noted that the City had not implemented a public involvement/participation program. The City of Clarksville has yet to develop and implement this program.

This permit requirement has not been met.

Required action: The City of Clarksville must develop a Public Involvement/Participation Program. It must include all the required educational campaigns. This information shall be tracked and the records maintained. A summary shall be included in the annual report.

Minimum Control Measure 3 - Illicit Discharge Detection and Elimination (IDDE)

NPDES Permit Section 4.2.3. - Paragraph two in part requires the following:

Existing MS4s must continue to develop and update and maintain a storm sewer system map that shows the location of all outfalls where the MS4 discharges into waters of the state or conveyances owned or operated by another MS4 that receive discharges from those outfalls. The map must also show:

- *the names and location of all waters of the state that receive discharges from those outfalls;*
- *inputs into the storm sewer collection system, such as the inlets, catch basins, drop structures or other defined contributing points to the sewershed of that outfall;*
- *general direction of stormwater flow.*

The City of Clarksville continues to map their system, however, not all of the requirements have been included. Therefore, this permit requirement has not been met.

Required action: Develop a complete map that shows all of the receiving streams. All of the receiving streams should be properly labeled. The map must identify the general direction of storm flow the inputs into the storm sewer collection system, such as inlets, catch basins, drop structures or other defined contributing points to the sewershed of that outfall.

NPDES Permit Section 4.2.3. - Paragraph three in part requires the following:

The MS4 must effectively prohibit, through ordinance, or other regulatory mechanism, non-stormwater discharges into your storm sewer system and implement appropriate enforcement procedures and actions.

This permit requirement has been met.

NPDES Permit Section 4.2.3. - Paragraph four in part requires the following:

Develop and implement a plan to detect, identify and eliminate non-stormwater discharges. The City shall also develop and implement standard procedures to be followed to investigate portions of the MS4 that, based on results of the field screening or other identification programs, indicate a reasonable potential of containing illicit discharge.

This permit requirement has not been met.

Required action: Fully develop and implement a plan to detect, identify and eliminate non-stormwater discharges, including illegal dumping, to your system. This plan must include procedures for locating priority areas likely to have illicit discharges; procedures for tracing the source of an illicit discharge; procedures for removing the source of the discharge; and procedures for program evaluation and assessment. Visual screening of MS4 outfalls during dry weather and conducting field tests of selected pollutants is encouraged as part of the procedures for locating non-stormwater discharges and priority areas. Results of all non-stormwater investigations should be documented to include, but not be limited to, locations, times, parameters, sampling results, and discovered sources of flows.

NPDES Permit Section 4.2.3. - Paragraph five in part requires the following:

You must inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

This permit requirement has not been met.

Required action: Develop and fully implement a program to educate the targeted audiences about the water quality impacts of illegal discharges and improper disposal of waste. All outreach programs shall be documented by including date, location, target audience, number of attendees, and subject discussed.

NPDES Permit Section 4.2.3. - Paragraph six in part requires the following:

You must address the following categories of non-stormwater discharges or flows (i.e. illicit discharges) only if you identify them as significant contributors of pollutants to your MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash water (discharges or flows from firefighting activities are excluded from the effective prohibition against non-stormwater and need only be addressed where they are identified as significant sources of pollutants to waters of the state).

The City of Clarksville's ordinance allows other discharges as determined by the Director of Streets and documented in the Storm Water Management Manual. The current ordinance is not consistent with the NPDES permit requirements.

Therefore, this permit requirement has not been met.

Required action: The ordinance must be modified to only incorporate the allowable discharges identified in the NPDES permit.

NPDES Permit Section 4.2.3. - Paragraph seven in part requires the following:

The MS4 must be able, by ordinance or other regulatory mechanism, to prohibit contamination of stormwater from Hot Spots.

This permit requirement has not been met.

Required action: The City of Clarksville must prohibit by ordinance or other regulatory mechanism contamination of stormwater from all Hot Spots.

NPDES Permit Section 4.2.3 - Paragraph eight in part requires the following:

The MS4 shall develop a mechanism for the public to report (e.g. via hotline or website), suspected illicit discharges. The MS4 shall specify within the ERP the timeframe for complaint investigation. Documented illicit discharges shall be responded to no more than 7 days from detection, and eliminated as soon as possible.

This permit requirement has not been met.

Required action: The MS4 must provide a mechanism for the public to report illicit discharges (ie., via a hotline or a website). The MS4 shall include in the enforcement response plan (ERP) the timeline complaints are investigated. Documented illicit discharges must be responded to no more than 7 days from detection, and eliminated as soon as possible.

NPDES Permit Section 4.2.3 - Paragraph nine in part requires the following

The MS4 shall foster interagency coordination of hazardous waste or material spills response and cleanup. The MS4 shall inform local spill-response agencies and/or TEMA (Tennessee Emergency Management Agency) of the potential negative impacts to surface water (and ground water) of spill clean-up activities, that is, the potential for the response to cause pollutants to enter waters of the state.

This permit requirement has not been met.

Required action: The MS4 must coordinate with the local spill response agency and/or Tennessee Emergency Management Agency (TEMA) of the potential negative impacts to surface water (and ground water) of spill clean-up activities. The MS4 should initiate the development of a set of guidelines and procedures that local responders will follow to minimize the damaging effects that spill response activities have on water resources.

Minimum Control Measure 4 - Construction Site Stormwater Runoff Control

NPDES Permit Section 4.2.4.a. – In part requires the following:

Modifications to ordinances or other regulatory mechanisms for construction site runoff control program to be consistent with requirements of the current NPDES general permit for construction stormwater runoff must be implemented within 18 months of coverage under this permit (March 2011).

This permit requirement has not been met.

Required action: The City of Clarksville's Stormwater Ordinance must be modified to comply with Section 4.2.4.a. of this NPDES permit.

NPDES Permit Section 4.2.4.b. - Requires the following:

Requirements for construction site operators to implement appropriate erosion prevention and sediment control best management practices: The MS4's EPSC requirements shall be consistent with those described in the TDEC EPSC Handbook.

This permit requirement has not been met.

Required action: A regulatory mechanism must be in place so that City of Clarksville's Stormwater requirements are consistent with those described in the TDEC EPSC Handbook.

NPDES Permit Section 4.2.4.c.

The MS4's requirements for design storm and special conditions for impaired waters or exceptional Tennessee waters must be consistent with those of the current effective Tennessee Construction General Permit (TNR100000) within 18 months of coverage under this permit .

The City of Clarksville's ordinance has not been modified to include the requirement of this permit section.

This permit requirement has not been met.

Required action: The City of Clarksville's Stormwater Ordinance must be modified to comply with Section 4.2.4.c. of this NPDES permit.

NPDES Permit Section 4.2.4.d. – In part requires the following:

Within 12 months of coverage under this permit the MS4 must develop and maintain and inventory of all active public and private construction sites that result in a land disturbance of equal to or greater than one acre. This inventory is to include construction activities disturbing less than an acre if that construction activity is part of a larger common plan of development or sale that would disturb on acre or more.

The City of Clarksville has a spreadsheet of grading permits issued. The spreadsheet did not distinguish between active sites and inactive sites.

This permit requirement has not been met.

Required action: The City of Clarksville must develop and maintain a complete inventory to track all applicable active public and private construction sites. The inventory must contain relevant contact information for each project (e.g. tracking number, name, address, phone, etc.), the size of the project and the area of disturbance, whether or not the project has submitted for

permit coverage under the Tennessee Construction General Permit (TNR100000) and the date the city approved the construction site plan.

NPDES Permit Section 4.2.4.e.

The MS4 must require construction site operators to control wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site to avoid adverse impacts to water quality.

This permit requirement has not been met.

Required action: The City of Clarksville's MS4 Ordinance must be modified to comply with Section 4.2.4.e. of this NPDES permit.

NPDES Permit Section 4.2.4.f.

Procedures for construction site plan (including erosion prevention and sediment controls) review and approval: The MS4 procedures must include an evaluation of plan completeness and overall BMP effectiveness.

This permit requirement has been met. The Street Department has the responsibility to review site plans. Consideration is given to erosion prevention and sediment control measures.

NPDES Permit Section 4.2.4.g.

Procedures for managing public input on projects: The MS4 must have mechanisms for public access to information on projects and receiving and considering comments from the public on those projects. It is recommended that the MS4 use the world wide web for facilitating public involvement.

The city holds planning committee meetings however there are no procedures to promote and manage public involvement on projects.

Therefore, this requirement has not been met.

Required action: The City must implement a mechanism to include procedures to manage public input on projects.

NPDES Permit Section 4.2.4.h.

Procedures for site inspection and enforcement: The MS4 must have procedures in place for its inspectors to evaluate construction site compliance. The Enforcement Response Plan (ERP) must include specific enforcement steps to ensure construction sites are in compliance with the MS4's program.

This permit requirement has been met. The City of Clarksville's Street Department has created procedures for inspectors to evaluate construction site compliance. The ordinance outlines enforcement measures, which can include a notice of violation, a stop work order, penalties and injunctions.

NPDES Permit Section 4.2.4.i.

MS4 staff training: Inspectors must maintain certification under the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 1 (or equivalent). Construction site plan reviewers must receive a certificate of completion from the Tennessee Erosion Prevention and Sediment Control Design Course, Level 2. It is recommended that MS4 staff receive training under both courses.

This permit requirement has been met. Jack Frazier, Jeff Bryant, George Steward, Randy Petersen, John Goodlett, Angie Sykes and Kenny Daniels have attended the Tennessee Fundamentals of Erosion Prevention and Sediment Control, Level 1 Course. Jack Frazier and Jeff Bryant have attended the Tennessee Erosion Prevention and Sediment Control Design Course.

NPDES Permit Section 4.2.4.j.

The MS4 must identify priority construction sites that are discharging directly into, or immediately upstream of, waters the state recognizes as impaired (for siltation or habitat alteration) or Exceptional Tennessee Waters.

This permit requirement has not been met.

Required action: The City of Clarksville must identify priority construction sites.

Minimum Control Measure 5 - Permanent Stormwater Management in New Development and Redevelopment

NPDES Permit Section 4.2.5.1 - Paragraph one in part requires the following:

The MS4 must develop, implement, and enforce a program to address permanent (post-construction) stormwater runoff management from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development.

This permit requirement has been met. The City of Clarksville must continue to address permanent stormwater runoff to ensure that controls are in place that would prevent or minimize water quality impacts.

NPDES Permit Section 4.2.5.1 - Paragraph three in part requires the following:

The MS4 must develop and implement a set of requirements to establish, protect, and maintain a permanent water quality buffer along all waters of the state at new development and redevelopment projects.

This permit requirement has been met.

NPDES Permit Section 4.2.5.2.1 and 4.2.5.2.2. - Paragraph one of section 4.2.5.2., paragraph one of Section 4.2.5.2.1. and 4.2.5.2.2 in part requires the following:

The MS4 must implement and enforce permanent stormwater controls that are comprised of runoff reduction and pollutant removal.

Site design standards for all new and redevelopment require management measures that are designed, built and maintained to infiltrate, evapotranspire, harvest and/or use, at a minimum, the first inch of every rainfall event preceded by 72 hours of no measurable precipitation. This first inch of rainfall must be 100% managed with no storm water runoff being discharged to surface waters.

For projects that cannot meet 100% of the runoff reduction requirement unless subject to the incentive standards, the remainder of the stipulated amount of rainfall must be treated prior to discharge with a technology reasonably expected to remove 80% total suspended solids (TSS). The treatment technology must be designed, installed and maintained to continue to meet this performance standard.

The City of Clarksville is allowed 48 months from the date of coverage under the current NPDES permit to implement this requirement. Although Clarksville is not currently in violation of this section of the NPDES permit, it does require attention.

Required action: The City of Clarksville's Stormwater Ordinance and reference documents/publications must be modified to include this information by March 10, 2015. Once updated, this information should be documented in the Stormwater Management Plan (SWMP).

NPDES Permit Section 4.2.5.5 and 4.2.5.5.1. - Paragraph two and three of section 4.2.5.5. and all of section 4.2.5.5.1. in part requires the following:

The MS4 must require the owner of any site to develop and implement a maintenance agreement addressing long term maintenance requirements for any BMPs. The written agreement should verify responsible party or group and include conditions for continued maintenance should the property be sold or transferred. The agreement must also allow the MS4 to perform necessary maintenance neglected by the property owner and recoup any incurred costs from the property owner.

The City of Clarksville is allowed 48 months from the date of coverage under the current NPDES permit to implement this requirement. Although Clarksville is not currently in violation of this section of the NPDES permit, it does require attention.

Required action: The City of Clarksville's Stormwater Ordinance and reference documents/publications must be modified to include this information by March 10, 2015. Once updated, this information should be documented in Clarksville's Stormwater Management Plan (SWMP).

NPDES Permit Section 4.2.5.6. – In part requires the following:

The City of Clarksville shall develop a system, within 180 days of issuance of this permit, designed to track BMPs deployed at new development and redevelopment projects both public and private that are within the jurisdiction of the MS4.

Clarksville has not developed a system to track the Best Management Practices (BMPs). Therefore, this permit requirement has not been met.

Required action: The City of Clarksville must develop and maintain a system to track BMPs. The inventory is to include a short description of each BMP, latitude and longitude coordinates of the controls, maintenance requirements and inspection information.

NPDES Permit Section 4.2.5.7. - Paragraphs a. and b. in part requires the following:

The MS4 shall require owners to perform and document routine BMP inspections every year and comprehensive BPM inspections every five years. The latter must be performed by an engineer or landscape architect.

The City of Clarksville is allowed 48 months from the date of coverage under the current NPDES permit to implement this requirement. Although Clarksville is not currently in violation of this section of the NPDES permit, it does require attention.

Required action: The City of Clarksville's Stormwater Ordinance and reference documents/publications must be modified to include this information by March 10, 2015. Once updated, this information should be documented in the Stormwater Management Plan (SWMP).

Minimum Control Measure 6 - Pollution Prevention/Good Housekeeping

NPDES Permit Section 4.2.6.

The MS4 must develop and implement an operation and maintenance program that has the ultimate goal of preventing or reducing pollutant runoff from municipal operations. The MS4 must consider the following when developing the program: maintenance activities, maintenance schedules, and long-term inspection procedures for structural and non-structural stormwater controls to reduce floatable and other pollutants discharged from the MS4's separate storm sewers; controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, fleet or maintenance shops with outdoor storage areas, salt/sand storage locations and snow disposal areas operated by the MS4, and waste transfer stations; procedures for properly disposing of waste removed from the separate storm sewers and areas listed above (such as dredge spoil, accumulated sediments, floatable, and other debris); and ways to ensure that new flood management projects assess the impacts on water quality and examine existing projects for incorporating additional water quality protection devices or practices. Operation and maintenance must be an integral component of all Stormwater Management Programs.

This permit requirement has not been met.

Required action: The City of Clarksville must fully develop, and implement an operation and maintenance program. The program should include an ongoing training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations as described in the current MS4 Permit. Clarksville must document the following in their stormwater management plan (SWMP):

- a. Best management practices (BMPs) programs and processes that the City or another entity will implement for this minimum control measure;
- b. The measurable goals and milestones for each of the BMPs including the frequency of the action (the months and years);
- c. The person or persons responsible for implementing or coordinating the BMPs for the SWMP;
- d. Pollutant control efforts for all municipal- operated facilities that maintain or store motorized equipment, oils or other hazardous materials;
- e. A detailed description of all inspection and monitoring programs.

Monitoring/Record Keeping/Reporting

NPDES Permit Section 5.1. and 5.2.

The MS4 shall perform analytical and non-analytical monitoring in streams with EPA approved TMDLS and impaired streams, where discharges from the MS4 have been identified as the source of the impairment. The required monitoring in the MS4 jurisdiction must be performed in a five year period.

The City of Clarksville has not included a monitoring component in their SWMP.

Required action: Clarksville must develop their monitoring plan and incorporate it into their SWMP. Analytical monitoring shall be performed for streams listed as impaired or with EPA approved TMDLS where discharges from the MS4 have been identified as a source of impairment. At least one sample per stream segment should be collected in the MS4 jurisdiction in a five-year period.

General recommendation:

Since the Division's inspection found significant non-compliance in your stormwater management program, it is recommended that the City of Clarksville allocate the necessary resources to allow for the proper development and implementation of this program so that all permit requirements can be met.

Report by Michael Finks